



Creating a Streamside Buffer - Caring for Murfreesboro's Streams

What is a riparian buffer zone?

An area along the bank of a stream where plants and trees are growing naturally and to maturity.

Why are buffer zones an important part of the environment?

These areas provide habitat to plants and animals, enhancing the ecological integrity of the stream and preventing erosion of the bank. Buffer zones also generally increase groundwater storage, reducing damage from flood waters, improve water quality, and add natural beauty. Tree roots will take hold of the land and prevent erosion. Also, more vegetation growing alongside the river, especially trees, has a cooling effect on the river water (and the surrounding environment). Shaded and cooler water reduces unwanted plant and algal growth in the stream and renders oxygen more accessible to fish.

Why should I not mow my lawn to the edge of the stream?

Mowing the lawn close to the stream will directly affect the stream by the clippings thrown into it, along with any fertilizers and herbicides used on the lawn. Short grass means more heat reaches the stream and aquatic life and generally undermines the stability of the stream bank.



Water quality regulations

The City is required by State and Federal requirements to improve water quality in local streams and has enacted an ordinance to set aside a buffer zone called a Water Quality Protection Area (WQPA) - in areas of new development and redevelopment. Widths of 35 and 50 feet apply for smaller and larger streams.

You can participate by building your own buffer zone of 5 feet, 10 feet, 25, 50 feet or more - even if you live on a property developed prior to the WQPA ordinance (March, 2007). Check the City's Water and Sewer Department/ Storm-water website for updates: www.murfreesborotn.gov.

It's all about plants.

Healthy riparian areas include a variety of types and ages of plants, including trees, shrubs, grasses and groundcovers. Plants adapted to local rainfall, climate, insects, and soil conditions tend to be easier to care for because they need less water and pesticides.

Most native plants are well adapted to their region. In Murfreesboro, a few of the common native riparian plants are the **grasses and sedges**: river oats (a.k.a., northern sea oats), Joe Pye weed, Virginia wildrye, split-beard bluestem; **shrubs**: wild hydrangea, buttonbush, New England Aster; **trees**: black willow, green ash, sweetgum, box elder, silky dogwood, rough leaf dogwood, Shumard Oak (*Quercus shumardii*).



River Oats (*Chasmanthium latifolium*)

Characteristics: Reaches 2-3 feet. Clump-forming, upright. Showy, drooping flowers; slender, bamboo-like foliage changes from green to copper in fall. Grows well in shade. Good grass for cut flower arrangements.

Joe Pye Weed (*Eupatorium maculatum*)

Characteristics: Reaches 4 feet in height. Likes moisture (öwet feetö) along stream banks and pond edges. Also good garden plant in good soil. Tall, straight stems and magenta flower heads attract butterflies.

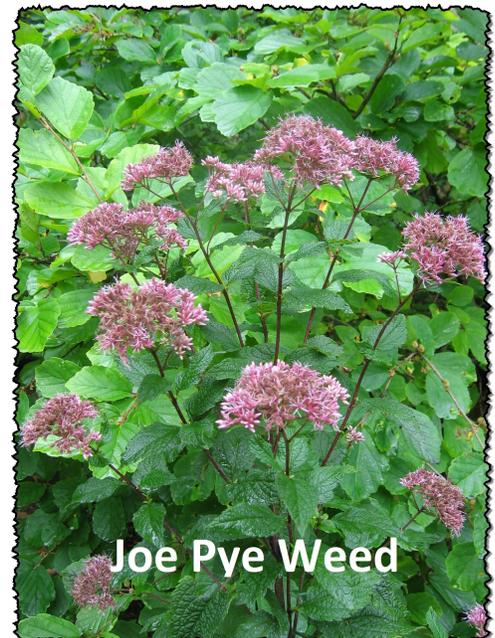
A natural zone near my creek will bring critters I don't want near my house!

As long as you don't leave food nearby, they'll leave you alone and stay in their preferred habitat. The expanse of plants along the creek will bring other fauna that you will enjoy, such as songbirds and butterflies.

What can I do to help rebuild a buffer zone?

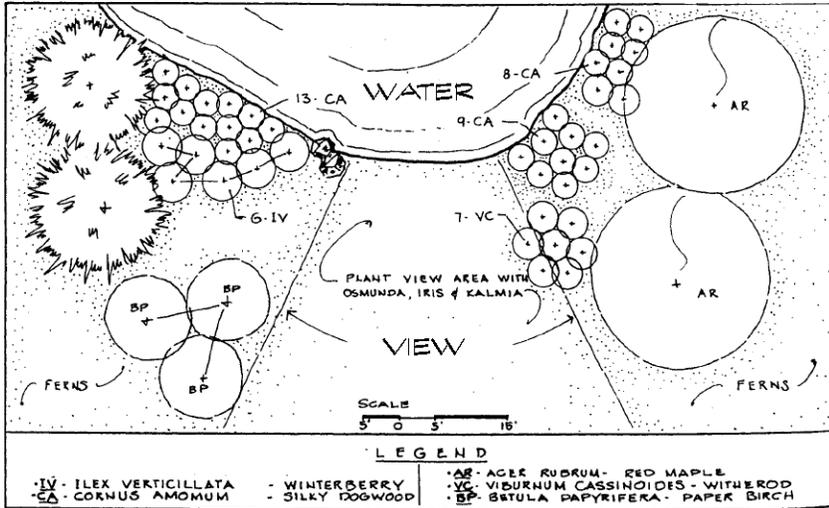
One way is simply to stop mowing down the creek bank ö allow vegetation to grow naturally. But you can also direct tree growth by planting desirable trees on or near the creek bank. Bundles of 75-100 seedlings are available from the Tennessee Department of Agriculture for about \$60. Mulch around the tree, make sure it gets enough water in summer and keep weeds from choking it. Another planting method is to insert live cuttings of water-loving trees like willow and dogwood at the water's edge.

To create a more formal look to a buffer zone of trees on the creek bank, you can provide a band of moderate height grasses (e.g., 2-3 feet) between the bank and lawn. Add design by mowing a curve to the outer edge of the grasses and/or by mowing the upland grasses to different heights in different places. A natural area does not have to be unkempt, and you can experiment to make it defined and attractive. Add color to the edge of the buffer with flowering plants.



To view the stream, you can cut and mow view corridors, and/or make a pathway corridor to the stream. Use wood chips or other soft material that will soak up rain. Also, place your leaves and yard trimmings into a compost pile instead of throwing them into the stream, and try to use less fertilizer and pesticides as well.

Plan incorporating a view corridor to the water



Native plants in other areas of your yard

Experiment with native-type plants in other areas of your yard, not just along a stream bank. Add buffers between your house and the street to absorb and filter runoff before it enters a storm drain or ditch on its way to a stream.



Shumard Oak
Quercus shumardii

Image courtesy of Steven Baskauf (c) 2002

Resources and information

Tennessee Department of Agriculture tree farm. 1-877-TN TREES

Tennessee Environmental Council. TEC can sometimes make trees available to you at no cost, if they will be planted along a creek. 615-248-6500.

Adopt-A-Stream. Would you participate with neighbors to adopt your neighborhood stream? You can take an active role in assuring the well-being of your community's water resources.

CoCoRaHS rainfall monitoring. Be part of nationwide grass-roots, rainfall-monitoring network. <http://www.cocorahs.org/>



Shumard Oak

Photo by Steven Baskauf, 2002

Whom should I contact if I have questions?

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Material provided by the Murfreesboro Stormwater Program. If you see water pollution in Murfreesboro, call 615-848-3200.



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